



TORO Analysis of Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic to Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic

INPUT SECTION:

| Transfer | Title | O* NET | Filters | | |
|--------------------|---|------------|------------|----------------------|-----------|
| From Title: | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | 51-4031.00 | Abilities: | Importance Level: 50 | Weight: 1 |
| To Title: | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | 51-4193.00 | Skills: | Importance Level: 69 | Weight: 1 |
| Labor Market Area: | Maine Statewide | | Knowledge: | Importance Level: 69 | Weight: 1 |

OUTPUT SECTION:

| | | |
|--------------------|--|-----------|
| Grand TORQ: | | 93 |
|--------------------|--|-----------|

| Ability TORQ | | Skills TORQ | | Knowledge TORQ | |
|--------------|----|-------------|----|----------------|----|
| Level | 96 | Level | 93 | Level | 91 |

| Gaps To Narrow if Possible | | | | Upgrade These Skills | | | | Knowledge to Add | | | |
|----------------------------|-------|-----|------|-----------------------------|-------|-----|------|---------------------------------|-------|-----|------|
| Ability | Level | Gap | Impt | Skill | Level | Gap | Impt | Knowledge | Level | Gap | Impt |
| No Critical Gaps Recorded! | | | | No Skills Upgrade Required! | | | | No Knowledge Upgrades Required! | | | |

LEVEL and IMPT (IMPORTANCE) refer to the Target Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic. GAP refers to level difference between Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic and Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

| Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | Importance |
|----------------------|---|--|------------|
| Control Precision | 50 | 44 | 66 |
| Manual Dexterity | 46 | 36 | 52 |
| Information Ordering | 45 | 39 | 50 |

Skill Level Comparison - Abilities with importance scores over 69

| Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | Importance |
|-------------|---|--|------------|
|-------------|---|--|------------|

Knowledge Level Comparison - Knowledge with importance scores over 69



| | | | |
|-------------|---|--|------------|
| Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | Importance |
|-------------|---|--|------------|

Experience & Education Comparison

| Related Work Experience Comparison | | | | Required Education Level Comparison | | | |
|------------------------------------|---|--|--|-------------------------------------|---|--|--|
| Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | | Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | |
| 10+ years | 0% | 0% | | Doctoral | 0% | 0% | |
| 8-10 years | 0% | 0% | | Professional Degree | 0% | 0% | |
| 6-8 years | 0% | 0% | | Post-Masters Cert | 0% | 0% | |
| 4-6 years | 0% | 0% | | Master's Degree | 0% | 0% | |
| 2-4 years | 0% | 5% | | Post-Bachelor Cert | 0% | 0% | |
| 1-2 years | 11% | 1% | | Bachelors | 0% | 0% | |
| 6-12 months | 17% | 3% | | AA or Equiv | 0% | 0% | |
| 3-6 months | 9% | 0% | | Some College | 0% | 0% | |
| 1-3 months | 19% | 15% | | Post-Secondary Certificate | 1% | 4% | |
| 0-1 month | 8% | 16% | | High School Diploma or GED | 79% | 67% | |
| None | 33% | 55% | | No HSD or GED | 18% | 28% | |

| | |
|---|--|
| Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic |
|---|--|

Most Common Educational/Training Requirement:

| | |
|-----------------------------------|-----------------------------------|
| Moderate-term on-the-job training | Moderate-term on-the-job training |
|-----------------------------------|-----------------------------------|

Job Zone Comparison

| | |
|---|---|
| <p>2 - Job Zone Two: Some Preparation Needed</p> <p>Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.</p> <p>These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.</p> <p>Employees in these occupations need anywhere from a few months to one year of working with experienced employees.</p> | <p>2 - Job Zone Two: Some Preparation Needed</p> <p>Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.</p> <p>These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.</p> <p>Employees in these occupations need anywhere from a few months to one year of working with experienced employees.</p> |
|---|---|

Tasks

| | |
|---|--|
| Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic |
| Core Tasks | Core Tasks |

Generalized Work Activities:

- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Specific Tasks

Occupation Specific Tasks:

- Adjust ram strokes of presses to specified lengths, using hand tools.
- Clean and lubricate machines.
- Examine completed workpieces for defects such as chipped edges and marred surfaces, and sort defective pieces according to types of flaws.
- Grind out burrs and sharp edges, using portable grinders, speed lathes, and polishing jacks.
- Hand-form, cut, or finish workpieces, using tools such as table saws, hand sledges, and anvils.
- Hone cutters with oilstones to remove nicks.
- Install, align, and lock specified punches, dies, cutting blades or other fixtures in rams or beds of machines, using gauges, templates, feelers, shims, and hand tools.
- Load workpieces, plastic material, or chemical solutions into machines.
- Lubricate workpieces with oil.
- Mark identifying data on workpieces.
- Measure completed workpieces to verify conformance to specifications, using micrometers, gauges, calipers, templates, or rulers.
- Place workpieces on cutting tables, manually or using hoists, cranes, or sledges.
- Plan sequences of operations, applying knowledge of physical properties of workpiece materials.
- Position guides, stops, holding blocks, or

Generalized Work Activities:

- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Documenting/Recording Information - Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.

Specific Tasks

Occupation Specific Tasks:

- Adjust controls to set temperatures of coating substances and speeds of machines and equipment.
- Adjust dials to regulate flow of current and voltage supplied to terminals in order to control plating processes.
- Attach nozzles, position guns, connect hoses, and thread wire in order to set up metal-spraying machines.
- Charge furnaces.
- Clean and maintain equipment, using water hoses and scrapers.
- Clean workpieces, using wire brushes.
- Cut metal or other materials, using shears or band saws.
- Determine sizes and compositions of objects to be plated, and amounts of electrical current and time required.
- Examine completed objects to determine thicknesses of metal deposits, or measure thicknesses by using instruments such as micrometers.
- Immerse objects to be coated or plated into cleaning solutions, or spray objects with conductive solutions to prepare them for plating.
- Immerse workpieces in coating solutions or liquid metal or plastic for specified times.
- Inspect coated or plated areas for defects such as air bubbles or uneven coverage.
- Install gears and holding devices on conveyor equipment.
- Maintain production records.
- Measure and set stops, rolls, brushes,



other fixtures to secure and direct workpieces, using hand tools and measuring devices.

- Position, align, and secure workpieces against fixtures or stops on machine beds or on dies.
- Preheat workpieces, using heating furnaces or hand torches.
- Read work orders and production schedules to determine specifications, such as materials to be used, locations of cutting lines, and dimensions and tolerances.
- Remove housings, feed tubes, tool holders, and other accessories in order to replace worn or broken parts such as springs and bushings.
- Replace defective blades or wheels, using hand tools.
- Scribe reference lines on workpieces as guides for cutting operations, according to blueprints, templates, sample parts, or specifications.
- Select, clean, and install spacers, rubber sleeves, and cutters on arbors.
- Set blade tensions, heights, and angles to perform prescribed cuts, using wrenches.
- Set stops on machine beds, change dies, and adjust components, such as rams or power presses, when making multiple or successive passes.
- Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.
- Sharpen dulled blades, using bench grinders, abrasive wheels, or lathes.
- Start machines, monitor their operations, and record operational data.
- Test and adjust machine speeds and actions, according to product specifications, and using gauges and hand tools.
- Thread ends of metal coils from reels through slitters, and secure ends on recoilers.
- Turn controls to set cutting speeds, feed rates, and table angles for specified operations.
- Turn valves to start flow of coolant against cutting areas and to start airflow that blows cuttings away from kerfs.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- attach or mark identification onto products or containers
- clean equipment or machinery
- examine products or work to verify conformance to specifications

and gauges on automatic recoilers and conveying equipment or coating machines, using micrometers, rules, and hand tools.

- Measure or weigh materials, using rulers, calculators, and scales.
- Measure, mark, and mask areas to be excluded from plating.
- Mix and test solutions, and turn valves to fill tanks with solutions.
- Monitor and measure thicknesses of electroplating on component parts in order to verify conformance to specifications, using micrometers.
- Observe gauges to ensure that machines are operating properly; make adjustments or stop machines when problems occur.
- Operate hoists to place workpieces onto machine feed carriages or spindles.
- Operate sandblasting equipment to roughen and clean surfaces of workpieces.
- Perform equipment maintenance such as cleaning tanks and lubricating moving parts of conveyors.
- Place plated or coated materials on racks and transfer them to ovens to dry for specified periods of time.
- Plate small objects such as nuts or bolts, using motor-driven barrels.
- Position and feed materials into processing machines, by hand or by using automated equipment.
- Position containers to receive parts, and load or unload materials in containers, using dollies or handtrucks.
- Position objects to be plated in frames, or suspend them from positive or negative terminals of power supplies.
- Preheat workpieces in ovens.
- Read production schedules to determine setups of equipment and machines.
- Remove excess materials or impurities from objects, using air hoses or grinding machines.
- Remove objects from solutions at periodic intervals and observe objects to verify conformance to specifications.
- Replace worn parts and adjust equipment components, using hand tools.
- Rinse coated objects in cleansing liquids; then dry them with cloths, centrifugal driers, or by tumbling in sawdust-filled barrels.
- Set up, operate, or tend plating or coating machines to coat metal or plastic products with chromium, zinc, copper, cadmium, nickel, or other metal to protect or decorate surfaces.
- Spray coating in specified patterns according to instructions.
- Suspend objects such as parts or molds from cathode rods (negative terminals), and immerse objects in plating solutions.



- fabricate, assemble, or disassemble manufactured products by hand
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- maintain or repair industrial or related equipment/machinery
- measure, weigh, or count products or materials
- monitor production machinery/equipment operation to detect problems
- move or fit heavy objects
- operate hoist, winch, or hydraulic boom
- operate metal or plastic fabricating equipment/machinery
- perform safety inspections in manufacturing or industrial setting
- plan or organize work
- read blueprints
- read production layouts
- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- recognize characteristics of metals
- set up computer numerical control machines
- set up production equipment or machinery
- understand machine setup instructions
- understand technical operating, service or repair manuals
- use hand or power tools
- use precision measuring tools or equipment

- suspend sucks or pieces of prying metal from anodes (positive terminals) and immerse metal in plating solutions.
- Test machinery to ensure that it is operating properly.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- apply adhesives, caulking, sealants, or coatings
- clean equipment or machinery
- examine products or work to verify conformance to specifications
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- load, unload, or stack containers, materials, or products
- maintain or repair industrial or related equipment/machinery
- maintain production or work records
- measure, weigh, or count products or materials
- mix paint, ingredients, or chemicals, according to specifications
- monitor production machinery/equipment operation to detect problems
- move or fit heavy objects
- operate hoist, winch, or hydraulic boom
- operate metal or plastic fabricating equipment/machinery
- perform safety inspections in manufacturing or industrial setting
- read specifications
- read work order, instructions, formulas, or processing charts
- set up computer numerical control machines
- set up production equipment or machinery
- understand technical operating, service or repair manuals
- use hand or power tools
- use precision measuring tools or equipment
- use spray application production equipment

Labor Market Comparison

| Labor Market Comparison | | | |
|-------------------------|---|--|------------|
| Description | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | Difference |

| | | | |
|---------------------------------------|-----------|-----------|----------|
| Median Wage | \$ 27,500 | \$ 32,160 | \$ 4,660 |
| 10th Percentile Wage | \$ 17,200 | \$ 21,560 | \$ 4,360 |
| 25th Percentile Wage | N/A | N/A | N/A |
| 75th Percentile Wage | \$ 31,510 | \$ 36,780 | \$ 5,270 |
| 90th Percentile Wage | \$ 37,720 | \$ 43,000 | \$ 5,280 |
| Mean Wage | \$ 27,250 | \$ 31,530 | \$ 4,280 |
| Total Employment - 2007 | 450 | 120 | -330 |
| Employment Base - 2006 | 461 | 115 | -346 |
| Projected Employment - 2016 | 395 | 133 | -262 |
| Projected Job Growth - 2006-2016 | -14.3 % | 15.7 % | 30.0 % |
| Projected Annual Openings - 2006-2016 | 11 | 5 | -6 |

National Job Posting Trends

Trend for Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

Trend for Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic



Data from [Indeed](http://Indeed.com)

**Recommended Programs**

Precision Metal Workers, Other

Precision Metal Working, Other. Any instructional program in precision metal work not listed above.

No schools available for the program

Maine Statewide Promotion Opportunities for Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

| O* NET Code | Title | Grand TORQ | Job Zone | Employment | Median Wage | Difference | Growth | Annual Job Openings |
|-------------|---|------------|----------|------------|-------------|-------------|--------|---------------------|
| 51-4031.00 | Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic | 100 | 2 | 450 | \$27,500.00 | \$0.00 | -14% | 11 |
| 51-4193.00 | Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic | 93 | 2 | 120 | \$32,160.00 | \$4,660.00 | 16% | 5 |
| 51-4122.00 | Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders | 92 | 2 | 120 | \$36,960.00 | \$9,460.00 | 2% | 3 |
| 51-5023.00 | Printing Machine Operators | 91 | 2 | 790 | \$29,710.00 | \$2,210.00 | -3% | 18 |
| 51-9191.00 | Cementing and Gluing Machine Operators and Tenders | 84 | 1 | 80 | \$27,620.00 | \$120.00 | -15% | 2 |
| 51-9032.00 | Cutting and Slicing Machine Setters, Operators, and Tenders | 84 | 2 | 710 | \$31,350.00 | \$3,850.00 | -23% | 12 |
| 51-9041.00 | Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders | 84 | 2 | 260 | \$28,330.00 | \$830.00 | -7% | 5 |
| 51-2041.00 | Structural Metal Fabricators and Fitters | 83 | 3 | 680 | \$36,030.00 | \$8,530.00 | 5% | 15 |
| 51-9196.00 | Paper Goods Machine Setters, Operators, and Tenders | 83 | 2 | 910 | \$38,230.00 | \$10,730.00 | -26% | 23 |



| | | | | | | | | |
|------------|---|----|---|-------|-------------|-------------|------|----|
| 51-5021.00 | Job Printers | 82 | 3 | 140 | \$31,890.00 | \$4,390.00 | -10% | 2 |
| 51-2031.00 | Engine and Other Machine Assemblers | 82 | 3 | 20 | \$29,010.00 | \$1,510.00 | -45% | 1 |
| 51-4034.00 | Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic | 82 | 3 | 110 | \$34,350.00 | \$6,850.00 | -9% | 2 |
| 51-4121.07 | Solderers and Brazers | 82 | 2 | 1,610 | \$38,030.00 | \$10,530.00 | 7% | 49 |
| 51-4023.00 | Rolling Machine Setters, Operators, and Tenders, Metal and Plastic | 81 | 2 | 0 | \$33,460.00 | \$5,960.00 | 0% | 0 |
| 51-9121.00 | Coating, Painting, and Spraying Machine Setters, Operators, and Tenders | 81 | 2 | 850 | \$38,860.00 | \$11,360.00 | -26% | 19 |

Top Industries for Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic

| Industry | NAICS | % in Industry | Employment | Projected Employment | % Change |
|--|--------|---------------|------------|----------------------|----------|
| Coating, engraving, heat treating, and allied activities | 332800 | 50.92% | 21,333 | 18,249 | -14.46% |
| Semiconductor and other electronic component manufacturing | 334400 | 9.46% | 3,964 | 3,616 | -8.78% |
| Other electrical equipment and component manufacturing | 335900 | 3.84% | 1,609 | 1,556 | -3.29% |
| Other fabricated metal product manufacturing | 332900 | 3.20% | 1,340 | 1,239 | -7.53% |
| Motor vehicle parts manufacturing | 336300 | 2.97% | 1,246 | 1,036 | -16.91% |
| Alumina and aluminum production and processing | 331300 | 2.13% | 894 | 650 | -27.36% |
| Iron and steel mills and ferroalloy manufacturing | 331100 | 1.81% | 759 | 533 | -29.75% |
| Architectural and structural metals manufacturing | 332300 | 1.59% | 665 | 742 | 11.47% |
| Federal government, excluding postal service | 919999 | 1.29% | 540 | 533 | -1.34% |
| Aerospace product and parts manufacturing | 336400 | 1.17% | 488 | 519 | 6.29% |
| Machine shops | 332710 | 0.96% | 401 | 347 | -13.67% |
| Foundries | 331500 | 0.92% | 384 | 291 | -24.33% |
| Turned product and screw, nut, and bolt manufacturing | 332720 | 0.88% | 369 | 279 | -24.36% |



| | | | | | |
|--|--------|-------|-----|-----|--------|
| Manufacturing and reproducing magnetic and optical media | 334600 | 0.86% | 362 | 371 | 2.55% |
| Steel product manufacturing from purchased steel | 331200 | 0.85% | 358 | 331 | -7.64% |

Top Industries for Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

| Industry | NAICS | % in Industry | Employment | Projected Employment | % Change |
|--|--------|---------------|------------|----------------------|----------|
| Employment services | 561300 | 10.95% | 29,744 | 36,424 | 22.46% |
| Motor vehicle parts manufacturing | 336300 | 10.08% | 27,394 | 19,628 | -28.35% |
| Architectural and structural metals manufacturing | 332300 | 8.80% | 23,910 | 22,983 | -3.88% |
| Forging and stamping | 332100 | 6.81% | 18,517 | 13,040 | -29.57% |
| Plastics product manufacturing | 326100 | 5.31% | 14,440 | 13,775 | -4.60% |
| Other fabricated metal product manufacturing | 332900 | 3.61% | 9,822 | 7,833 | -20.26% |
| Ventilation, heating, air-conditioning, and commercial refrigeration equipment manufacturing | 333400 | 2.93% | 7,972 | 6,600 | -17.21% |
| Metalworking machinery manufacturing | 333500 | 2.35% | 6,374 | 4,697 | -26.32% |
| Other general purpose machinery manufacturing | 333900 | 1.82% | 4,945 | 4,018 | -18.76% |
| Boiler, tank, and shipping container manufacturing | 332400 | 1.82% | 4,936 | 4,003 | -18.90% |
| Machine shops | 332710 | 1.79% | 4,876 | 3,630 | -25.55% |
| Steel product manufacturing from purchased steel | 331200 | 1.79% | 4,869 | 3,878 | -20.35% |
| Spring and wire product manufacturing | 332600 | 1.76% | 4,776 | 3,182 | -33.37% |
| Agriculture, construction, and mining machinery manufacturing | 333100 | 1.69% | 4,593 | 3,859 | -15.97% |
| Metal and mineral (except petroleum) merchant wholesalers | 423500 | 1.59% | 4,325 | 4,275 | -1.16% |